UDK 159.922.8:613.81/.84
Originalan naučni rad
Primljeno: 27.2.2024.
Prihvaćeno za objavljivanje: 23.11.2024.
DOI: https://doi.org/10.46630/gped.2.2024.3

PERSONALITY DIMENSIONS AND SOCIAL VARIABLES: PREDICTORS OF CIGARETTE SMOKING AND ALCOHOL CONSUMPTION IN ADOLESCENCE

Miroljub Ivanović[1]
Serbian Academy of Innovation Sciences, Belgrade, Serbia

Abstract: The main aim of this research was to examine the contribution of personal traits and social variables to predicting the frequency of cigarette and alcohol use by adolescent participants. Two questionnaires were used on the pertinent sample of IV grade elementary school students (N = 268), 18 ± 1.76 years of age: Big five inventory (BFI) and Role of parents and friends questionnaire. The calculated Cronbach's alpha coefficient indicated satisfactory internal consistency of the applied measuring instruments. Approximately 70% of adolescents do not smoke cigarettes, and 64% of them do not consume alcohol. Correlation analysis showed statistically significant correlation between the majority of variables. The results of hierarchical regression analysis, with the p-value ≤ .01, have shown that predictors explain 26% of total criterion variance (frequency of cigarette smoking), and 27% of total criterion variance (frequency of alcohol consumption). Thereat, the following variables have statistically significant independent contribution to cigarette smoking: gender, neurosis, openness to experiences, cigarette smoking – parents, and friends' reaction to cigarettes, while the best predictors of alcohol consumption by adolescents are agreeability, alcohol consumption – friends, and friends' reaction to alcohol consumption. The obtained data bring insight to the significance of insufficiently explored relations between social factors and personality traits and cigarette and alcohol use by adolescents. The results have been discussed within the context of current empirical and theoretical material as well as practical implications for operationalization of the examined regression.

Keywords: adolescents, cigarette smoking, alcohol consumption, questionnaires

Introduction

Evaluating the influence of personality dimensions and social factors on the frequency of cigarette and alcohol use among adolescents has become a frequent subject of psychological research. Research results (Chan et al., 2024) indicate that

[1] miroljub.ivanovic@gmail.com

the cigarette and alcohol use is a mass behavior of young people. The findings of some studies point to the fact that female adolescents use cigarettes and alcohol more often than men (Suvija & Raju, 2024), while the results (Tiwari & Ojha, 2024) also reveal that male adolescents consummate alcohol and smoke cigarettes to a higher degree than females. During the period of adolescence there is an identical model of alcohol use (frequency and amount), which after that period starts to vary depending on sex (Haehner et al., 2024). According to the study by Kenney et al., female adolescents use alcohol in smaller amounts than male adolescents do, who consummate alcohol more frequently and in larger amounts, which is not explored enough (Hřebíčková et., 2023).

Based on current research of Big five model of personality structure (extraversion, neuroticism and openness), personality positively correlates with risk behavior (Haehner et al., 2023), or it negatively correlates with unexcused absence from school and cigarette and alcohol use (Hatano et al., 2022). Previous study on correlation between personality dimensions and risky health behavior has shown that agreeableness negatively correlates with alcohol and cigarette use with both sexes, neuroticism and introversion correlate positively with female adolescents, while extroversion correlates positively with male adolescents (Jones et al., 2022). Neuroticism, low conscientiousness, and agreeableness of adolescents correlates with alcohol use, or it is assumed that due to experiencing unpleasant emotional states such as anxiety, anger, sadness, as well as due to problems with stressful situations, high school graduates use alcohol in significant amounts (Ma & Xiang, 2023).

Previous research (Ali et al., 2023) revealed that adolescents who have strong family bonds, express more sociability and responsibility and to a lesser degree antisocial behavior, when compared to those who do not have close relationship with their parents. Research conducted by the authors (Kapetanovic et al., 2023) has revealed positive correlation between cigarette and alcohol use of parents and their children, since higher alcohol use of parents positively correlates with the higher tendency of adolescents to spend time with their peers who consume alcohol.

In research (Haehner et al., 2024) state that during the period of adolescence, friends and peers represent significant social factor which provides compact social unit for developing basic social skills such as conflict resolution, creating conditions for multiple forms of support, immediate imitation and social support, which further creates conditions for favorable and unfavorable impact on adolescent development (Haehner et al., 2024). According to the authors' research (Olson et al., 2023), peer contribution increases with age, especially when it comes to risky behavior because friends gain more significant role in making life choices, for example alcohol and cigarette use, while parents have greater role in developing values and life goals. Besides, parents are often concerned that their children will adopt various negative behaviors due to "bad company" and peer pressure. In research (Oginyi et al., 2024). state that troublesome adolescent behavior has greater impact on the choice of friends than the group of peers has on individual adolescent behavior. Hence, friends chose one another based on identical personality dimensions, for example aggressiveness, depressiveness and so on (Tiwari1 & Ojha, 2024). Also, friendly relationship with an individual who consumes addictive substances or deviates from social norms represents a dominant factor of risky adolescent behavior

– adolescents who spend time with friends who abuse addictive substances have more positive view on peers who use cigarettes and alcohol (Filipiak, 2021).

The aim of this research refers to the examination of the contribution of social variables in explaining the frequency of cigarette and alcohol use among adolescents, or to which degree the dimensions of Big five model of personality explain the addictive substance use, as well as the influence of social factors (cigarette and alcohol use among parents and peers, and their reaction to it) on the use and risky health behavior of adolescents of both sexes.

Method

Sample and procedure

This cross-sectional study included 268 students of both genders (*N*m = 132 or 53.75%; *N*f = 136 or 46.25%), who are in their last year of high school. The mean age of the subjects was 17.5 years (*SD* = 1.24). Research was conducted in June 2024, in the following schools: Medical School "Dr Misa Pantic", The Economic, Technical, and Agricultural School, and Valjevo Gymnasium. Gender differences regarding age were not statistically significant [$t_{(481)} = 0.89$, $p \leq .05$].

Participation of subjects was voluntary and anonymous. Before starting the research, subjects were introduced with the goals and methods of the study, after which they gave a written consent that their data could be used in the planned study, and they were explained that they can withdraw from the study at any time (three subjects withdrew from the study). Group size varied from 20 to 30 subjects, and their goal was to circle the appropriate number on evaluation scales. Individual filling of questionnaires lasted approximately 30 minutes. Testing was conducted by appropriately trained experts, under the supervision of a psychologist.

Results of subject that was more than ± 3.30 on scales, expressed in z-values, were eliminated from this study.

Measuring instruments

Big-Five factor personality model – BFI

BFI (John & Srivastava, 1999) consists of 44 items. The subject expressed the degree of acceptance with claims from five subscales: openness (10 items), conscientiousness (9 items), neuroticism (8 items), extroversion (8 items), and agreeableness (9 items). Answers are graded on a five-degree Likert scale (1 – *completely disagree*, to 5 – *completely agree*). The scores of subjects for each subscale are formed as a simple linear combination on the items which comprise the subscale.

Basic descriptive indicators of self-validation, depending on their personality traits, are shown in Table 1. Reliability of internal consistency of the *Big-Five* model on our sample ranges from .71- .84, which illustrates a satisfying reliability of this composite measuring instrument.

Table 1
Descriptive indicators and reliability (Cronbach α) of the Big-Five factor personality model

Subscales	*M*	*SD*	*Range*	α
Openness	35.12	3.73	21-46	.84
Consciousness	29.35	3.48	21-40	.71
Neuroticism	19.67	2.92	13-29	.74
Extroversion	31.49	2.81	20-40	.81
Agreeableness	32.17	3.05	19-44	.64

Parents and peers Questionnaire (Kalebić-Maglca & Martinac-Dorčić, 2015) this inventory evaluates the frequency of cigarette smoking and alcohol consumption among parents and peers, and reactions of parents and peers on cigarette smoking and alcohol consumption among adolescents.

Frequency of cigarette smoking and alcohol consumption of parents and peers is defined with four items (for cigarettes – 1 item, beer, wine, and spirits – three items) on a 6 degree scale (1 – *never*, to 6 – *every day*). Items which evaluate the frequency of wine, beer, spirit consumption are summed individually for parents and peers. A higher score indicates a more frequent consumption of alcohol and cigarette smoking.

Reliability of internal consistency (*Cronbach* α) for the scales alcohol consumption by peers was .90, and for alcohol consumption by parents – .77. This indicates that the reliability of this composite metric instrument is satisfying.

Reaction of parents and peers on use of cigarettes and alcohol of adolescents are evaluated with eight items (In your opinion, how would your parents/peers react if they would find out you are smoking cigarettes/drink beer/wine/spirits?), using a five-degree scale (1 – extremely negative, to 5 – extremely positive). Items for reaction of peers and parents on beer, wine, and spirit consumption are summed, so that a higher result indicates a more positive reaction of parents/peers.

Reliability coefficient (*Chrobach's*) for scales reaction of peers on cigarette smoking, beer, wine, or spirits was .91, and for reaction of parents .86 (Table 2), which implies measurement which is independent from nonsystematic errors.

Table 2
Descriptive indicators for frequency of cigarette smoking and alcohol consumption among peers and parents and perceived reactions for use of the mentioned abusive substances

Scales	*M*	*SD*	Range	α
Cigarette smoking – parents	3.50	2.28	1-6	-
Cigarette smoking – peers	4.78	1.68	1-6	-

Alcohol consumption - parents	9.96	2.76	3-17	.74
Alcohol consumption – peers	10.90	3.40	3-18	.90
Reaction of parents - cigarettes	1.92	.92	1-5	-
Reaction of peers - cigarettes	2.98	1.03	1-5	-
Reaction of parents - alcohol	7.05	2.53	3-15	.86
Reaction of peers - alcohol	9.57	2.55	3-15	.91

Frequency of cigarette smoking was evaluated with one item, while alcohol consumption was evaluated using three items (individually for beer, wine, and spirits) on a five-degree scale (1 – never to 5 – every day). A higher score indicates a more frequent consumption of alcohol and cigarette smoking. Reliability coefficients (*Cronbach α*) for the scale alcohol consumption – parents and peers were .74 and .90, respectively. These findings signalize that the metric characteristic (reliability) of these scales is independent from nonsystematic errors and stochastic variations of measuring results.

Statistical analysis

While analyzing the obtained data, following methods of descriptive and analytical statistics were used: arithmetic mean (AM), standard deviation (SD), nonparametric Pearson correlation coefficient and hierarchical regression analysis for significance threshold from $p \leq .05$ to $p \leq .01$. Internal consistency of the questionnaire was tested using Cronbach's alpha coefficient. The statistical data analysis was conducted using SPSS (*Statistical Package for the Social Science*), version 17.0.

Results

Table 3 shows relative frequencies of cigarette use scale and type of alcoholic beverage scale. One can note that more than two thirds of the examined adolescent population of participants does not have the habit of smoking cigarettes. Also, around 10% of the participants have tried cigarettes while one tenth of adolescents stated that they consummate alcohol daily (beer, wine, hard liquor), and more than half of participants have never tasted alcohol, while the smallest number of them (2%) drink every day.

Hence, the findings of hierarchical regression analysis show that alcohol is more frequently consumed among participants who are more pleasant, and whose

parents and friends also consume alcohol, as well as how their friends react to alcohol consumption.

Table 3
Relative frequency of cigarette smoking and alcohol consumption

Variables	Never	Several times a year	Several times a month	Several times a week	Every day
Cigarettes	69.26	893	5.00	2.66	9.96
Beer	19.18	20.48	50.07	10.08	2.10
Wine	16.65	50.03	31.43	4.75	.03
Spirits	28.04	51.01	9.98	9.94	.01

Table 4 describes parametric Pearson's coefficients of correlation between the coupled variables: personality dimensions and contribution of parents and peers, as well as frequency of cigarette smoking and alcohol consumption. Their values range from (r = .01) to (r = .58). From a total of 45 correlation coefficients, four are statistically significant, while others have minimal significant linear mutual dependence, which points to a probability that from the value of one variable, no conclusions can be drawn about the other, and shouldn't, therefore, be a subject of discussion.

Table 4
Intercorrelations of personality dimensions and cigarette smoking

Variables	1	2	3	4	5	6	7	8	9
1 Openness	1.0	.08	.05	.01.	.09	.03	.10	-.12	.04
2 Consciousness		1.0	.09	.12	.62**	.11	-.05	-.09	-13
3 Neuroticism			1.0	.54**	.05	.10	.03	.06	.11
4 Extroversion				1.0	.11	.03	-.08	-12	.02
5 Agreeableness					1.0	.01	.09	-.11	-.13
6 Cigarette smoking - peers						1.0	.29**	.19*	.05
7 Cigarette smoking - parents							1.0	.05	.11
8 Reaction of peers – cigarettes								1.0	.33**
9 Reaction of parents - cigarettes									1.0

*$p \leq .05$; **$p \leq .01$*

By observing the matrix, it can be concluded that the variable cigarette smoking among adolescents is statistically and mildly positively correlated with personality dimensions conscientiousness and agreeableness (r = .62, $p \leq .01$), and with neuroticism and extroversion (r = .54, $p \leq .01$). A significant, relatively low positive

correlations between variables cigarette smoking – peers and cigarette smoking – parents (r = .29, $p \leq .05$), and between reaction of peers – cigarettes and reaction of parents – cigarettes (r = .33, $p \leq .01$) are also observed. These stochastically significant linear correlations between personality dimensions and cigarette smoking point to a tendency of data dispersion around the regression line in the same direction (linear growth of both values are observed) in the examined adolescent population.

Values of correlation coefficients between the remaining variables are equal to zero. This shows that there is no movement in either direction, because there is great dispersion around the regression line. In addition, zero values of correlation coefficients signify nonexistence of linear correlation between variability of analyzed phenomena, i.e. on the basis of knowing one variable, no conclusions can be made regarding the other.

With a goal of determining stochastically significant correlation between the variability of personality dimensions and alcohol consumption, the Pearson's correlation coefficient was applied (Table 5). Their values range from (r = .01) to (r = .58). From a total of 45 correlation coefficients, only four are statistically significant, while the remaining coefficients have zero values, which signalizes the fact that on the basis of knowing the value of one variable, no conclusions can be drawn about the other.

Table 5

Intercorrelations of personality dimensions and alcohol consumption

Variables	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
1 Openness	1.0	-.09	.01	.11	.06	.02	.05	.07	.10
2 Consciousness		1.0	.01	.05	-58**	.03	.09	-.10	-03
3 Neuroticism			1.0	.02	.05	.01	.05	.02	-.05
4 Extroversion				1.0	.08	.05	-.02	-10	.08
5 Agreeableness					1.0	.01	.11	-03	-.10
6 Cigarette smoking - peers						1.0	.28**	.07	.01
7 Cigarette smoking - parents							1.0	.40**	.04
8 Reaction of peers – cigarettes								1.0	.30**
9 Reaction of parents - cigarettes									1.0

*$p \leq .05$; ** $\leq p$ .01

By examining the correlational matrix, a visible statistically significant and mildly negative correlation between the variables cigarette smoking and personality dimensions consciousness and agreeableness (r = -.58, $p \leq .01$) can be observed. A negative correlation indicates that their changes move in opposite directions (one rises, while the other falls). In addition, a positive and relatively low mutual relation between

the variables alcohol consumption – peers and alcohol consumption – parents ($r = .28$, $p \leq .01$), and between variables reaction of peers – alcohol and reaction of parents – alcohol ($r = .30$, $p \leq .01$), can be observed. These findings point to the fact that there is a direct stochastic correlational link among between these variables, i.e. a same-direction tendency (values of both variables either rise or fall). The obtained positive and negative correlational coefficients among the remaining variables do not indicate linear mutual dependence between the variability of the observed phenomena.

In order to predict the results of the criterion – dependent variable (frequency of cigarette smoking) on the basis on interactional effects of predictors – independent variables, a hierarchical regression model was constructed (Table 6). In the first step of the hierarchical regression analysis, the demographic variable (gender) was included, while the second step comprised personality dimensions (openness and neuroticism), and finally, social factors (frequency of cigarette smoking parents/peers, as well as reaction of peers – cigarettes) were added into the third step of analysis.

Table 6
Contribution of predictors in explaining the frequency of cigarette smoking

Predictors	β	SE	R^2	ΔR^2
1st Step				
Demographic Variable Gender	.25**	.13	.05	.05
2nd step				
Personality dimensions				
Openness	-.17*	.10	.12	.10
Neuroticism	.28**	.15		
3. корак				
Social factors				
Cigarette smoking - parents	.32**	.08	.26	.08
Reaction of peers - cigarettes	.37**	.14		

Legend. β – Standard partial regression coefficient; SE – standard error of regression; R^2 - coeffient of determinance (total contribution of predictors to the explained variance); ΔR^2 change of the coefficient of determination (contribution of a certain group of predictors to the explained variance); *$p \leq .05$; **$p \leq .01$

In the total linear regression model, predictor variables significantly explain and predict 26% of total variance (mean squared deviation from the arithmetic mean) results of frequency of cigarette smoking, while other factors and their constructs which were not investigated comprise the „remaining“ of 74% of variability of the dependent variable from central tendency, which is a satisfying amount of interpreted dispersion of the dependent variable together with independent variables, according to results by (Umar et al., 2024).

In the first step, the β coefficient of the regression equation – gender – as an independent predictor, significantly explains the criterion (β = 25, $p \leq .01$), in a way that cigarette smoking is more prevalent among female adolescents. Personality dimensions included in the second step of the multivariate space significantly explain an additional 10% of the variance, at which neuroticism ($\beta = 28, p \leq .01$) is a positive partial predictor of frequency of cigarette smoking, while openness (β = -.17, $p \leq$ .01) poses as a negative predictor. In the third step, social factors – cigarette smoking – parents (β = .37, $p \leq .01$), and a dominant predictor – reaction of peers (β = .37, $p \leq .01$) present positive partial predictors of cigarette smoking, and they explain an additional 8% of dispersion of the criterion variable. These findings indicate that if parents more frequently smoke cigarettes, and if the reaction of peers is positively oriented, adolescents of both genders will smoke cigarettes much more likely.

With a goal of determining the contribution of predictor variables in explaining and predicting the variability of the results of frequency of alcohol consumption, the hierarchical regression analysis was also used (Table 7). The analyzed predictor model of variables significantly explains and predicts 27% of variance of the frequency of alcohol consumption, while the remaining 73% of variability of the dependent variable is influenced by other factors.

Table 7
Contribution of predictors in predicting the frequency of alcohol consumption

Predictors	β	SE	R^2	ΔR^2
1st Step				
Demographic Variable				
Gender	-.36**	.11	.15**	.15**
2nd step				
Personality dimensions			.12**	.09*
Agreeableness	.29**	.15		
3. корак				
Social factors				
Alcohol consumption - parents	.31**	.10	.27**	.12**
Alcohol consumption - peers	.19**	.13		
Reaction of peers - alcohol	.18**	.12		

Legend. β – Standard partial regression coefficient; SE – standard error of regression; R^2 - coeffient of determinance (total contribution of predictors to the explained variance); ΔR^2 change of the coefficient of determination (contribution of a certain group of predictors to the explained variance); *$p \leq .05$; **$p \leq .01$

The partial predictor, demographic variable – gender, in the first step of analysis, independently explains 15% of variability of the criterion, which indicates that male adolescents more frequently consume alcohol. Personality dimensions

included in the second step of regression analysis significantly explain an additional 9% of dispersion of the criterion. The personality dimension Agreeableness stands out as an independent positive predictor ($\beta = .29$, $p \leq .01$), and it's partial influence is lost in the third step of analysis due to its mutual dependence with consumption of alcohol – peers, and consumption of alcohol – parents. In the third step of the linear regression model, the group of social factors, which explain an additional 12% of variability of alcohol consumption, and as partial positive predictors, three variables were included: the most dominant alcohol consumption – parents ($\beta = .31$, $p \leq .01$), alcohol consumption – peers ($\beta = .19$, $p \leq .01$), and reaction of peers to alcohol consumption ($\beta = .18$, $p \leq .01$).

Discussion

This research demonstrates findings of empiric research in which psychometric characteristics of measuring instruments (*Big-Five* factor model – BFF, and Parent and Peer questionnaire) are evaluated on the Serbian population. Calculated Cronbach's alpha coefficients are in accordance with the results of previous research.

The obtained findings of this research primarily show that male adolescents more frequently consume alcohol and smoke cigarettes than female adolescents. Frosch However, in the study (Frosch et al., 2019), it was observed that during adolescence, there is an identical model regarding the frequency of alcohol consumption among adolescents of both sexes. Certain authors point out that different motivation toward alcohol consumption should be taken into consideration when interpreting gender differences. With male subjects, stressful and unpleasant situations are interpreted as triggers, while with female subjects alcohol consumption is used as a method of controlling their feelings (Guss et al., 2020).

Having in mind the fact that personality dimensions imply a constant predisposition toward risky health behavior and their partial contribution, which is notable in our research, significant influence of neuroticism and openness toward cigarette smoking, but also conscientiousness toward alcohol consumption, was observed. Young males in whom neuroticism is more pronounced likely smoke more cigarettes, which is explained by behavioral models characterized by neuroticism. In that way, more frequent and more enhanced perception of unpleasant emotional states, as well as difficulties when encountering stressful situations, generate a need for more frequent cigarette smoking, i.e. individuals with pronounced neuroticism more frequently smoke cigarettes in order to reduce their anxiety. Findings regarding the influence of the personality dimension openness to risky health behavior in adolescents are not conclusive. Results of these authors indicate that openness is a negative predictor for cigarette smoking, but not for alcohol consumption. Considering the fact that high openness is characterized by more intense imagination, tendency toward transformation and different experiences, but also toward nonconventional beliefs, it is assumed that cigarette smoking does not present as a challenge, and is an expected behavior among male adolescents who achieve high results on

this scale. On the other hand, the individuals with high openness demand more mental experiences rather than physical stimulations which expose them to risky health behavior. Low conscientiousness proved itself as a positive predictor toward consumption of alcohol during adolescence (Lange et al., 2019). Male adolescents with low conscientiousness are characterized by insecurity, minimal organization, and insufficient regulation of influential factors, which implies a tendency toward risky health behavior.

Findings obtained in the correlational matrix, as well as results of significance of predictor variables from the second step of hierarchical regression analysis, point to the significance of agreeableness in alcohol consumption. However, the contribution of agreeableness was lost with the inclusion of social factors (parents and peers) in the equation, which is most likely a consequence of correlation of alcohol consumption and agreeableness among parents and peers. The frequency of alcohol consumption among parents and peers is perceived with a less visible dimension agreeableness, which is usually presented as a general factor, which connects characterizing tendencies and behavior such as kindness, cooperation, and a tendency toward helping. For these reasons, it is assumed that adolescents with prominent agreeableness exhibit more socially acceptable reactions, and tend to present their parents and peers in a positive way.

The obtained results regarding statistically significant interaction of personality dimensions and risky behavior turn the attention to relatively low coefficient values, which implies that the evaluated relations should be additionally evaluated in further research.

Our study confirmed the hypothesis that social factors explain risky health behaviors more significantly than personality dimensions, at which social factors are important contributors to cigarette smoking and alcohol consumption. Also, an important contribution to the frequency of risky health behavior (cigarette smoking and alcohol consumption) of adolescents is the influence of parents and peers. This directs to the responsibility of parents for initiation of this kind of behavior in adolescents. Besides, the significance of parental behavior, but not reactions to health manifestations, enhances a larger contribution of parents as a pattern, and not as a generator of verbal approval/disapproval, which is in accordance with theories of social learning. However, the framework in which parents pose as a pattern of behavior for adolescents depends on the relationship between parents and their children (Naser & Singh, 2024). Research findings emphasize that the influence of parents is waning in adolescence, unlike the influence of peers which remains significant (Peto et al., 2022), which can be interpreted by the fact that adolescents are increasingly socializing with their age-mates, according to Weintraubat el.. Simultaneously, it is considered that parental contribution is different from that of peers – peers more intensively contribute to lifestyle choices (such as risky health behaviors), while parents contribute to formation of values and goals. It must be pointed out that parents also have a role in forming values of children that determine the choice of their friends. Friends are significant for quality adaptation, development of characteristic traits and differentiated skills and inclusion and keeping various

manifestations (Clarke et al., 2019). The dominance of the risk factor is emphasized if adolescents have friends who exhibit risky behavior (Debenham et al., 2021). Exposure to danger by friends has a direct impact on adolescents through imitation, social stimulation, and legal consequences, or indirect, through formation of attitudes and opinion linked to risky behavior. However, a precise answer regarding the causal relationship whether age-mates influence development of risky behavior, or development of risky behavior by adolescents who require company with similar individuals, has not been established.

Significant limitations of this study, which should be taken into consideration in future studies, included: the selection of a nonrandomized sample, instead of randomized, and evaluation of frequency of risky health behavior among parents and peers, as well as their reactions, which greatly reduces the ability to generalize obtained results. During evaluation of the frequency of risky behavior by parents, the information whether the mentioned risky behavior exists in one or both parents was not obtained, which can have significant consequences on risky health behavior of adolescents.

Further research should encompass a sample (parents and peers) who would independently evaluate their frequency of use and their reaction to cigarette smoking and alcohol consumption among children. Additionally, the potential difference between actual consumption and perception of parents and peers regarding consumption of alcohol among adolescents should be taken into consideration as well. Simultaneously, it is necessary to analyze the partial contribution of parents as a model for risky health behavior, with regard to gender of their adolescent children. It is recommended that future empiric research evaluates the relations of personality traits and social factors through longitudinal studies, rather than transverse.

However, despite our limitations, the practical value of the obtained findings in this research includes aiding parents, teachers, pedagogues and psychologists to more easily identify adolescents with an increased risk toward behavior that could endanger their health, so that early prevention can be accomplished. Apart from personality dimensions, results in our research signalize the importance of parents and peers, and their respective roles, in forming risky health behavior in adolescence. Preventing risky health behavior in adolescents is particularly important, because if a shift toward risky health behavior does not occur during adolescence, there is a minimal chance of this phenomenon occurring in later life.

Conclusion

This study contributes to better understanding of insufficiently explored dispositional and social factors in explaining the frequency of cigarette and alcohol use among preadolescents. The results have shown that more than two thirds of preadolescents do not smoke cigarettes, and more than half of them have never tasted alcohol. The value of *Cronbach's* alpha shows satisfactory criterion validity, which further points to the applicability of the measuring instruments used on Serbian

population. Pearson correlation coefficient was used to determine statistically significant correlation between most of the variables, where the highest statistically relevant correlation was between cigarette/alcohol use and personality traits (conscientiousness and agreeableness), and the lowest was between the variables of cigarette/alcohol use – peers and cigarette/alcohol use – parents. The results of hierarchical regression analysis show that predictors explain 26% of total criterion variance (frequency of cigarette use), or 27% of total criterion variance (frequency of alcohol consumption). With that, variables which have individual statistically significant contribution to cigarette use are the following: gender, neuroticism, openness to new experiences, cigarette use – parents, and friends' reaction to cigarettes, while the best predictors of alcohol use are agreeableness, alcohol use – friends, and friends' reaction to alcohol consumption. The results of this study could help plan precise prevention strategies and treatments, with the primary focus on cigarette and alcohol use, by creating positive environment in family and school. In addition, it is necessary to conduct a national antismoking-drinking campaign in the countries with small number of students smokers, with the aim of lowering the prevalence of smokers and advancing the education of students on the subject of smoking and alcohol.

References

Ali, M., Rehman, Z. U., & Javed, A. (2023). The effect of parental conflicts on adolescents personality development in punjab, Pakistan. *Journal of Social Sciences Review, 7*(3), 109–124.

Chan R. H. W., Dong, D., Chong, K. C., & Kim, J. H. (2024). Development and validationof a Chinese Drinking Expectancies Questionnairefor young adults: A Hong Kong study. *Drug and Alcohol Review* (DAR) *43*(1), 233–44. https://doi.org/10.1111/dar.13733244 CHAN ET AL.

Clarke, E., Thompson, K., Weaver, S., Thompson, J., & O'Connell, G. (2019). Snus: A compelling harm reduction alternative to cigarettes. *Harm Reduction Journal, 16*(1), 1–17. https://doi.org/10.1186/s12954-019-0335-1

Debenham, J., Grummitt, L., Newton, N. C., Teesson, M., Slade, T., Conrod, P., & Kelly, E. V. (2021). Personality-targeted prevention for adolescent tobacco use: Three-year outcomes for a randomised trial in Australia. *Preventive Medicine, 153*, 106794. https://doi.org/10.1016/j.ypmed.2021.106794

Filipiak S, L. B. (2021). On the Rocky Road to Independence: Big Five Personality Traits and Locus of Control in Polish Primary School Students during Transition into Early Adolescence. *Int J Environ Res Public Health*. https://doi.org/10.3390/ijerph18094564. PMID: 33923124; PMCID: PMC8123388

Frosch, C. A., Schoppe-Sullivan, S. J., & O'Banion, D. D. (2019). Parenting and Child Development: A Relational Health Perspective. American Journal of Lifestyle Medicine, 15(1),4559. https://doi.org/10.1177/1559827619849028

Guss, S. S., Morris, A. S., Bosler, C., Castle, S. L., Hays-Grudo, J., Horm, D. M., & Treat, A. (2020). Parents 'adverse childhood experiences and current relationships with their young children: the role of executive function. *Early 58 Child Development and Care, 190*(7), 1042–1052. https://doi.org/10.1080/03004430.2018.1513921

Haehner, P., Bleidorn, W., & Hopwood, C. J. (2024). Examining individual differences in personality trait changes after negative life events. *European Journal of Personality*, *38*(2), 209–224. https://doi.org/10.1177/08902070231156840

Haehner, P., Rakhshani, A., Fassbender, I., Lucas, R. E., Donnellan, M. B., & Luhmann, M. (2023). Perception of major life events and personality trait change. *European Journal of Personality*, *37*(5), 524–542. https://doi.org/10.1177/08902070221107973

Hatano, K., Hihara, S., Sugimura, K., & Crocetti, E. (2022). Direction of associations between personality traits and educational identity processes: Between- and within-person associations. *Journal of Adolescence*, *94*(5), 763–775. https://doi.org/10.1002/jad.12062

Hřebíčková, M., Jelínek, M., Květon, P., & Benkovič, A. (2023). Psychometric properties of the Czech adaption of the IPIP-BFM-50 and the Mini-IPIP-BFM-20. *Ceskoslovenska Psychologie*, *67*(2), 101–120.

John, O. P. & Srivastava, S. (1999). The big five trait taxonomy: History, measurement and theoretical perspectives. U L. A. Perwin i O. P. John (Ur.), *Handbook of personality* (str. 102–138). New York: The Guilford Press.

Jones, S. A., Van Fossen, R. P., Thompson, W. K., Baker, F. C., Clark, D. B., & Nagel, B. J. (2022). Developmental trajectories of Big Five personality traits among adolescents and young adults: Differences by sex, alcohol use, and marijuana use. *Journal of Personality*, *90*(5), 748–761. https://doi.org/10.1111/jopy.12694

Kalebić-Maglca B, & Martinac-Dorčić T. (2015). Osobine ličnosti i socijalni faktori kao odrednice konzumacije cigareta i alkohola kod adolescenata. *Društvena istraživanja, 24*(2),197–217. https://doi.org//10.5559/di.24.2.02

Kapetanovic, S., Zietz, S., Lansford, J. E., Bacchini, D., Bornstein, M. H., Chang, L., Deater-Deckard, K., Di Giunta, L., Dodge, K. A., Gurdal, S., Oburu, P., Junla, D., Pastorelli, C., Skinner, A. T., Sorbring, E., Tapanya, S., Steinberg, L., Tirado, L. M. U., Yotanyamaneewong, S., … Al-Hassan, S. M. (2023). Parenting, adolescent sensation seeking, and subsequent substance use: Moderation by adolescent temperament. *Journal of Youth and Adolescence*, *52*(6), 1235–1254. https://doi.org/10.1007/s10964-023-01765-y

Lange, B. C. L., Callinan, L. S., & Smith, M. V. (2019). Adverse Childhood Experiences and Their Relation to Parenting Stress and Parenting Practices. Community Mental Health Journal, 55(4), 651–662. https://doi.org/10.1007/s10597-018-0331-z

Ma, L., & Xiang, Y. (2023). Mindfulness and subjective well-being among chinese adolescents: A longitudinal study and a weekly diary investigation. *Journal of Happiness Studies*, *24*(6), 1861–1881. https://doi.org/10.1007/s10902-023-00662-2

Naser, N. A., & Singh, M. (2024). Study Of Self Esteem And Personality With Drug Use Among Adults. *Educational Administration: Theory and Practice*, *30*(4), 8775–8789. https://doi.org/10.53555/kuey.v30i4.2828

Oginyi, C. R., Mbam, O. S., Nwonyi, S., Nwankwo, F., & Oko, F. U. (2024). Childhood sexual abuse among undergraduates of ebonyi state university, abakaliki: personality trait, substance abuse and loneliness as predictors variables. *EBSU Journal of Social Sciences and Humanities*, *14*(1). Retrieved from https://www.ebsu-jssh.com/index.php/EBSUJSSH/article/view/148

Olson, A. E., Chow, S.-M., Jones, D. E., & Shenk, C. E. (2023). Child maltreatment, parent-child relationship quality, and parental monitoring in relation to adolescent behavior problems: Disaggregating between and within person effects. *Child Abuse & Neglect*, *136*. https://doi.org/10.1016/j.chiabu.2022.106003

Peto, R., Li, L., Wang, C., & Chen, Z. (2022). Tobacco smoking and risks of more than 470 diseases in China: a prospective cohort study. *Lancet Public Health, 7*(12), e1014–e1026. https://doi.org/10.1016/S2468-2667(22)00227-4

Suvija,V., & Raju, R. (2024). A study of the relationship between personality traits and internet addiction among high school students in calicut city, kerala, India. *EPRA International Journal of Multidisciplinary Research (IJMR)*, *10*(1), 170–175. Retrieved from https://eprajournals.net/index.php/IJMR/article/view/3558

Tiwari, K., & Ojha, R. (2024). Big Five Personality Factors in Adolescents. *The International Journal of Indian Psychology, 12*(1), 1265–1279. https://doi.org 10.25215/1201.119

Umar, H., Muhammad, S., Rahman, U. A., & Madorawa, M.M. (2024). Agreeableness and conscientiousness (big five traits) as correlates of neglect of adolescents in secondary schools in tangaza and neighbouring areas in sokoto state Nigeria. *Nigerian Online Journal of Educational Sciences and Technology* (NOJEST), *5*(2),1–17.

DIMENZIJE LIČNOSTI I SOCIJALNE VARIJABLE PREDIKTORI UPOTREBE CIGARETA I ALKOHOLA U ADOLESCENCIJI

Miroljub Ivanović
Srpska akademija inovacionih nauka u Beogradu

Apstrakt: Osnovni cilj ovog istraživanja bilo je ispitivanje doprinosa osobina ličnosti i socijalnih varijabli u predikciji frekvencije upotrebe cigareta i alkohola kod ispitanika adolescentnog uzrasta. Na prigodnom uzorku učenika IV razreda srednjih škola (N = 268) prosečne starosti 18 ± 1.76 godina primenjena su dva upitnika: Petofaktorski upitnik ličnosti (BFI) i Upitnik uloge roditelja i prijatelja. Izračunate vrednosti Kronbah alfa koeficijenta ukazale su na zadovoljavajuću internu konzistentnost primenjenih mernih instrumenata. Oko 70% adolescenata/-ica nije pušilo cigareta, a oko 64% njih ne konzumira alkohol. Korelaciona analiza je pokazala statistički značajnu povezanost između većine varijabli. Rezultati hijerarhijske regresione analize su, uz p-vrednost ≤ 0,01, pokazali da prediktori objašnjavaju 26% ukupne varijanse kriterijuma (učestalosti upotrebe cigareta), odnosno 27% ukupne varijanse kriterijuma

(frekvencije konzumiranja alkohola). Pritom statistički značajan samostalan doprinos na upotrebu cigareta imaju varijable: pol, neuroticizam, otvorenost prema iskustvima, upotreba cigareta – roditelji i reakcija prijatelja na cigarete, dok su kod konzumiranje alkohola adolescenata najbolji prediktori bili prijatnost, upotreba alkohola – prijatelji i reakcija prijatelja na upotreba alkohola. Dobijeni podaci osvetljavaju značaj nedovoljno istraženih relacija socijalnih faktora i dimenzija ličnosti kod upotrebe cigareta i alkohola u adolescentskoj populaciji. Rezultati su komentarisani u kontekstu aktuelne empirijske i teorijske građe kao praktične implikacije za operacionalizaciju istraživane regresije.

Ključne reči: adolescenti, pušenje cigareta, konzumiranje alkohola, upitnici